

**ABSTRACT OF THE DISCLOSURE**

Apparatus for automatically inspecting a stream of matter comprises lamps which emit a detection medium, such as IR or visible light, to be active at the matter, a rotary polygonal mirror which receives from a multiplicity of detection zones at the matter detection medium which has been varied by variations in the matter, an optical detection device which receives the varied medium by reflection from the mirror, to detect a plurality of wavelengths of the varied medium substantially simultaneously, and to generate detection data in respect of that plurality of wavelengths substantially simultaneously and in dependence upon the variations in the medium, and a microprocessor which obtains the detection data from the device. The beams of the varied medium which are received at the device and emanate from the zones travel along respective paths from the matter to the mirror 9 which paths converge continuously with respect to each other from the matter to the mirror. Those paths may extend to the mirror indirectly by way of at least one planar mirror, or directly to the mirror, in which latter case the axis of the mirror would be substantially parallel to the direction of advance of the matter.